

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A method for generating a detail-in-context presentation for an original image for display on a display screen of a computer system, comprising:

receiving a signal ~~from a user~~ through a position tracking device coupled to the ~~computer~~ system to initiate the generation of the presentation , wherein the signal indicates a location and a depth in the original image ; and,

in response to the signal, distorting the original image to produce the presentation, the presentation having a distorted region to provide the user with detailed information for a region-of interest in the original image ; wherein the distorted region is positioned at the location and at the depth in the original image indicated by the signal; and, wherein the distorted region includes a magnified region having a magnification for at least at portion of the region-of-interest to provide the detailed information, at least partially surrounded by an at least partially compressed region where the magnification decreases to that of the original image to provide context for the magnified region with respect to the original image; and,

displaying the presentation on the display screen .

2. (Currently Amended) The method of claim 1 wherein the distorting further includes ~~÷ establishing a lens surface for the distorted region; and, transforming the original image by~~ applying a distortion function defining the lens surface to the original image to produce the presentation having the distorted region by displacing at least portions of the original image onto the distortion function .

3. (Currently Amended) The method of claim 2 wherein the distorting further ~~transforming~~ includes projecting the displaced at least portions of the original image presentation onto a plane.

4. (Currently Amended) The method of claim 3 wherein ~~the signal includes a location for the lens surface within the original image~~ the distortion function includes a focal region corresponding to the magnified region and having an elevation to provide the magnification upon the projecting onto the plane and a shoulder region corresponding to the compressed region where the elevation decreases to provide the decreasing magnification upon the projecting onto the plane .

5. (Currently Amended) The method of claim 3 wherein the signal includes a direction for the projecting onto the plane ~~a perspective projection for the lens surface .~~

6. (Currently Amended) The method of claim ~~4~~ 3 wherein the distorting ~~establishing~~ further includes displaying a graphical user interface ("GUI") on the display screen over the distorted region for receiving one or more signals for adjusting the distortion function ~~lens surface by the user with~~ the position tracking device.

7. (Currently Amended) The method of claim 6 wherein ~~the lens surface includes a focal region and a shoulder region and~~ the GUI includes at least one of:

- a slide bar icon for adjusting the elevation and hence the ~~a~~ magnification for the lens surface ;

- a slide bar icon for adjusting a degree of concavity for the distortion function;

- a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the focal region;

- a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the shoulder region;

- a move icon for adjusting a location for the distortion function ~~lens surface~~ within the original image;

- a pickup icon for adjusting a location for an outline of the shoulder region within the original image; and,

- a fold icon for adjusting a location for the focal region relative to the shoulder region to define a degree and a direction of a folding of the distortion function .

8. (Original) The method of claim 1 wherein the original image includes a two-dimensional image and a three-dimensional model.

9. (Original) The method of claim 1 wherein the position tracking device is an eye tracking device.

10. (Currently Amended) The method of claim ~~1~~ 3 wherein the position tracking device is an eye tracking device and wherein the ~~signal includes a~~ depth for the distorted region lens surface within the original image is proportional to a focal depth for ~~a~~ the user measured by the eye tracking device.

11. (Currently Amended) The method of claim 1 wherein the display screen includes a remote display screen coupled to the ~~computer~~ system by a network.

12. (Currently Amended) A method for adjusting a detail-in-context presentation of an original image displayed on a display screen of a ~~computer~~ system, comprising:

receiving a signal ~~from a user~~ through a position tracking device coupled to the ~~computer~~ system to adjust the presentation , wherein the signal indicates an adjusted location and an adjusted depth in the original image ; and,

in response to the signal, distorting the original image to produce an adjusted presentation for display on the screen , the adjusted presentation having a distorted region to provide the user with detailed information for a region-of interest in the original image ; wherein the distorted region is positioned at the adjusted location and at the adjusted depth in the original image indicated by the signal; and, wherein the distorted region includes a magnified region having a magnification for at least at portion of the region-of-interest to provide the detailed information, at least partially surrounded by an at least partially compressed region where the magnification decreases to that of the original image to provide context for the magnified region with respect to the original image; and,  
displaying the adjusted presentation on the display screen .

13. (Currently Amended) The method of claim 12 wherein the distorting further includes —: ~~establishing a lens surface for the distorted region; and, transforming the original image by applying~~ a distortion function ~~defining the lens surface~~ to the original image to produce the presentation having the distorted region by displacing at least portions of the original image onto the distortion function .

14. (Currently Amended) The method of claim 13 wherein the distorting further transforming includes projecting the displaced at least portions of the original image adjusted presentation onto a plane.

15. (Currently Amended) The method of claim 14 wherein ~~the signal includes an adjusted location for the lens surface within the original image~~ the distortion function includes a focal region corresponding to the magnified region and having an elevation to provide the magnification upon the projecting onto the plane and a shoulder region corresponding to the compressed region where the elevation decreases to provide the decreasing magnification upon the projecting onto the plane .

16. (Currently Amended) The method of claim 14 wherein the signal includes an adjusted direction for the projecting onto the plane a perspective projection for the lens surface .

17. (Currently Amended) The method of claim 15 ~~13~~ wherein the distorting ~~establishing~~ further includes displaying a graphical user interface ("GUI") on the display screen over the distorted region for receiving one or more signals for adjusting the distortion function ~~lens surface by the user with~~ the position tracking device.

18. (Currently Amended) The method of claim 17 wherein ~~the lens surface includes a focal region and a shoulder region and~~ the GUI includes at least one of:

a slide bar icon for adjusting the elevation and hence the ~~a~~ magnification ~~for the lens surface~~ ;

a slide bar icon for adjusting a degree of concavity for the distortion function;

a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the focal region;

a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the shoulder region;  
a move icon for adjusting a location for the distortion function ~~lens surface~~ within the original image;  
a pickup icon for adjusting a location for an outline of the shoulder region within the original image; and,  
a fold icon for adjusting a location for the focal region relative to the shoulder region to define a degree and a direction of a folding of the distortion function .

19. (Original) The method of claim 12 wherein the original image includes a two-dimensional image and a three-dimensional model.

20. (Original) The method of claim 12 wherein the position tracking device is an eye tracking device.

21. (Currently Amended) The method of claim 12 ~~14~~ wherein the position tracking device is an eye tracking device and wherein the ~~signal includes a~~ depth for the distorted region ~~lens surface~~ within the original image is proportional to a focal depth for a ~~the~~ user measured by the eye tracking device.

22. (Currently Amended) The method of claim 12 wherein the display screen includes a remote display screen coupled to the ~~computer~~ system by a network.

23. (Currently Amended) A method for generating a detail-in-context presentation ~~for of a region-of-interest region~~ within an original image for display on a display screen of a ~~computer~~ system, ~~the region including a focal region and a shoulder region,~~ comprising:

displaying a graphical user interface ("GUI") on the display screen over the ~~region-of-interest region~~ for selecting at least one parameter for distorting ~~at least one of the region, the focal region, and the shoulder region~~ the original image;

receiving a signal ~~from a user~~ through an eye ~~a position~~ tracking device coupled to the ~~computer~~ system for adjusting the GUI to select the at least one parameter , wherein the at least one parameter includes a location and a depth in the original image ; and,

distorting the original image by applying region in accordance with a distortion function adjusted by and the at least one parameter to the original image to produce the presentation for display on the screen , the presentation having a distorted region to provide detailed information for the region-of-interest; wherein the distorted region is positioned at the location and at the depth in the original image included in the signal; and, wherein the distorted region includes a magnified region having a magnification for at least at portion of the region-of-interest to provide the detailed information, at least partially surrounded by an at least partially compressed region where the magnification decreases to that of the original image to provide context for the magnified region with respect to the original image; and, displaying the presentation on the display screen .

24. (Currently Amended) The method of claim 23 wherein the distorting further includes displacing at least portions of the original image onto the distortion function and projecting the displaced at least portions of the original image adjusted presentation onto a plane.

25. (Original) The method of claim 24 wherein the at least one parameter includes a direction for the projecting onto the plane ~~a perspective projection for the distortion function~~ .

26. (Currently Amended) The method of claim 24 wherein the distortion function includes a focal region corresponding to the magnified region and having an elevation to provide the magnification upon the projecting onto the plane and a shoulder region corresponding to the compressed region where the elevation decreases to provide the decreasing magnification upon the projecting onto the plane and wherein the at least one parameter includes at least one of:

- the -a- magnification for the region ;
- a degree of concavity for the distortion function;
- a size for the focal region;
- a size for the shoulder region;
- a shape for the focal region;
- a shape for the shoulder region;
- a location for the distortion function region within the original image;
- a location for an outline of the should shoulder region within the original image; and,
- a location for the focal region relative to the shoulder region to define a degree and a direction of a folding of the distortion function.

27. (Currently Amended) The method of claim 26 wherein ~~the lens surface includes a focal region and a shoulder region~~ and the GUI includes at least one of:

- a slide bar icon for selecting the at least one parameter for adjusting the elevation and hence the -a- magnification for the lens surface ;
- a slide bar icon for selecting the at least one parameter for adjusting the degree of concavity for the distortion function;
- a bounding rectangle icon with at least one handle icon for selecting the at least one parameter for adjusting the size and the shape for the focal region;
- a bounding rectangle icon with at least one handle icon for selecting the at least one parameter for adjusting the size and the shape for the shoulder region;
- a move icon for selecting the at least one parameter for adjusting the location for the distortion function region within the original image;
- a pickup icon for selecting the at least one parameter for adjusting the location for the outline of the shoulder region within the original image; and,

a fold icon for selecting the at least one parameter for adjusting the location for the focal region relative to the shoulder region to define the degree and the direction of the folding of the distortion function .

28. (Original) The method of claim 23 wherein the original image includes a two-dimensional image and a three-dimensional model.

29. (Original) The method of claim 23 wherein the position tracking device is an eye tracking device.

30. (Currently Amended) The method of claim 23 ~~24~~ ~~wherein the position tracking device is an eye tracking device and~~ wherein the ~~signal includes a~~ depth for the distorted region within the original image distortion function is proportional to a focal depth for ~~a~~ the user measured by the eye tracking device.

31. (Currently Amended) The method of claim 23 wherein the display screen includes a remote display screen coupled to the ~~computer~~ system by a network.

32. (Currently Amended) A method for generating a detail-in-context presentation for an original image for display on a display screen of a ~~computer~~ system, comprising:

receiving a signal ~~from a user~~ through a position tracking device coupled to the ~~computer~~ system to initiate ~~the~~ generation of the presentation; ~~and,~~

in response to the signal, distorting the original image to produce the presentation, the presentation having a distorted region to provide ~~the user with~~ detailed information for a ~~region of~~ region-of-interest in the original image; wherein the distorted region includes a magnified region having a magnification for at least a portion of the region-of-interest to provide the detailed information, at least partially surrounded by an at least partially compressed region where the magnification decreases to that of the original image to provide context for the magnified region with respect to the original image; wherein the distorting further includes applying a distortion function to the original image to produce the presentation by displacing at least portions of the original image onto the distortion function



and projecting the displaced at least portions of original image onto a plane; wherein the distortion function includes a focal region corresponding to the magnified region and having an elevation to provide the magnification upon the projecting onto the plane and a shoulder region corresponding to the compressed region where the elevation decreases to provide the decreasing magnification upon the projecting onto the plane; and, wherein the signal includes a location for the distorted region within the original image and a direction for the projecting onto the plane a perspective projection for the distorted region ; and, displaying the presentation on the display screen .

33. (Cancelled)

34. (Cancelled)

35. (Currently Amended) The method of claim ~~32~~ ~~33~~ wherein the distorting ~~establishing~~ further includes displaying a graphical user interface ("GUI") on the display screen over the distorted region for receiving one or more signals for adjusting the distortion function ~~lens surface by the user~~ with the position tracking device.

36. (Currently Amended) The method of claim 35 wherein ~~the lens surface includes a focal region and a shoulder region~~ and the GUI includes at least one of:

a slide bar icon for adjusting the elevation and hence the ~~a~~ magnification ~~for the lens surface~~ ;

a slide bar icon for adjusting a degree of concavity for the distortion function;

a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the focal region;

a bounding rectangle icon with at least one handle icon for adjusting an extent ~~a size and a shape~~ for the shoulder region;

a move icon for adjusting a location for the distortion function ~~lens surface~~ within the original image;

a pickup icon for adjusting a location for an outline of the shoulder region within the original image; and,

a fold icon for adjusting a location for the focal region relative to the shoulder region to define a degree and a direction of a folding of the distortion function .

37. (Original) The method of claim 32 wherein the original image includes a two-dimensional image and a three-dimensional model.

38. (Original) The method of claim 32 wherein the position tracking device is an eye tracking device.

39. (Currently Amended) The method of claim 32 ~~-34-~~ wherein the position tracking device is an eye tracking device and wherein the ~~signal includes a~~ depth for the distorted region ~~lens surface~~ within the original image is proportional to a focal depth for a ~~the~~ user measured by the eye tracking device.

40. (Currently Amended) The method of claim 32 wherein the display screen includes a remote display screen coupled to the ~~computer~~ system by a network.